



Delivery practices of rural women in Northern Bangladesh: A socio demographic analysis

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Abstract

In spite of global advancements, confirming safe childbirth remains a serious public health challenge, mostly in developing countries. Though the maternal mortality rate is decreasing, but about 287,000 women died globally in 2020 due to maternal causes. The scenario of rural areas are more vulnerable compared to urban areas. Understanding the characteristics of rural women is crucial for planners to take effective action. This study explores the social and demographic factors that shape delivery practices among women in rural Bangladesh. The research used a mixed methods approach, combining quantitative and qualitative data to gain a deeper understanding of the participants. The findings of the study show that though the number of receiving ANC visits is very high, the rate of receiving all 4 antenatal care visits at the standard time is not at a satisfactory level. Furthermore, the institutional delivery rate has increased a lot, but still have to achieve more. The health workers who are working in rural areas should motivate the rural women to use health facilities properly and deliver their children to health facilities. So, to ensure quality delivery practices, the concerned authority should emphasize socio-demographic development, especially emphasizing education and economically empowering rural women.

Keywords: Delivery practice, rural women, socio demography

Introduction

Every mother deserves the right to experience the unimaginable joy of holding her newborn child for the first time. But the reality of childbirth can be quite frightening for pregnant women ^[1]. In the year 2000, a total of 446,000 women tragically died from pregnancy-related complications, according to the World Health Organization (WHO). This number has significantly decreased, with approximately 287,000 deaths reported in 2020 ^[2]. Tremendous progress has been made worldwide, yet achieving safe motherhood remains a major public health concern.

Nationally, Bangladesh has made significant steps in improving maternal health. The maternal mortality rate (MMR) has dropped from 172 deaths per 100,000 live births in 2017 to 136 in 2023 ^[3]. This represents a remarkable decrease. However, a persistent disparity exists between urban and rural areas. While both regions have seen progress, the gap in MMR remains a matter of concern. In 2017, urban areas had a lower MMR (157) compared to rural areas (182). In 2022, the gap widened slightly, with urban areas at 135 and rural areas at a concerning 157, exceeding the national average ^[4]. Understanding the socio demographic factors underlying this rural-urban gap is crucial for designing effective interventions. Age of the respondents, low educational levels, low income and marital age are often concentrated in rural areas. By analyzing these factors, policymakers can target resources and programs to bridge the gap and ensure equitable access to quality maternal healthcare for all Bangladeshi women. By acknowledging and addressing the socio demographic factors that contribute to the rural-urban MMR gap, Bangladesh can ensure its progress in maternal health reaches all women, regardless of their location.

Methodology of the Study

In this research qualitative and quantities both approaches were used for getting a clear picture of the respondents. To gather rich data, a semi-structured questionnaire with both open-ended and closed-ended questions was developed. Rural women's experiences and social influences around seeking obstetric care can be effectively explored through Focus Group Discussions (FGDs). Considering the issue FGDs were also done. For in-depth exploration of qualitative data, interviews with knowledgeable individuals are essential. Keeping it in mind KII also done. The study focuses on the northern part of Bangladesh, encompassing Rajshahi and Rangpur divisions. Notably, 77% of the population in this region reside in rural areas, a higher percentage compared to other parts of the country ^[5]. Two districts from two divisions were selected through simple random sampling techniques. These are Rajshahi and Rangpur. Moving further, two Upazilas were randomly chosen: Poba from Rajshahi district and Mithapukur from Rangpur district. To delve deeper, a Union named Hujuripara from Poba Upazila and another named Ranipukur from Mithapukur Upazila were selected using simple random sampling techniques. The population of the study was all pregnant women residing in the two selected Unions who gave birth in 2018. In the two selected Unions, a total of 434 women gave birth in 2018. By using the formula $n = \frac{z^2 Npq}{(e^2 (N-1) + z^2 pq)}$ the sample size was determined which was 205 ^[6]. After that following a proportional sampling approach, 106 respondents were selected from Hujuripara Union, while 99 respondents were selected from Ranipukur Union.

Result

In the study, most of the respondents (33.7%) belonged to the age group 20-24. On the other hand, a very few number of respondents belonged to the age group 40-44. And of them, only 3.9% were illiterate. Almost half of the

respondents (48.3%) concentrated on the secondary educational group (Class 6-10). Housewife was the dominating occupation of the respondents (95.6%), with a negligible number of respondents (3.5%) involved in other professions like agriculture (2%), service (1%), and tailoring (1.5%). Marital age is an important indicator of various causes of maternal complications and maternal mortality. It is a matter of sorrow that three quarters (74.1) of respondents got married before age 18. In most cases, the household head is the decision maker. In the study, 76.1% of respondents' households were headed by the husband. Only 2.4% of households were headed by the respondents. Income work as an enabling factor. 44.4% of respondents belonged to the monthly income group 10000 or below, while another 41.5% of respondents belonged to the income group 10001-20000 taka. Everywhere, nuclear families are in an increasing trend. In the study area, it was found that 61% of respondents were members of nuclear families. Parity is an important factor for maternal healthcare and childbirth. Most of the respondents (43.4%) had 2 parities. Only 1.5% of respondents had 5 or more parities.

Table 1: Socio-demographic characteristics of respondents (N=205)

Variables	Type	Frequency	Percentage
Age of the respondents	15-19	38	18.5
	20-24	69	33.7
	25-29	54	26.3
	30-34	32	15.6
	35-39	10	4.9
Education level of the respondents	40-44	2	1.0
	Illiterate	8	3.9
	Primary (Class 1-5)	44	21.5
	High school (Class 6-10)	99	48.3
	SSC	27	13.2
Occupation	HSC	20	9.8
	Graduation and above	7	3.4
	Housewife	196	95.6
	Agriculture	4	2.0
	Service	2	1.0
Marital age of the respondents	Tailoring	3	1.5
	Married before Age 18	152	74.1
	Married on Age 18 or later	53	25.9
	Household Head	Self (Women)	5
Monthly family income	Husband	156	76.1
	Father-in-law	39	19.0
	Mother-in-law	5	2.4
	Up to 10000	91	44.4
Types of family	10001-20000	85	41.5
	20001-30000	20	9.8
	30001-40000	06	02.9
	40001 and above	03	1.5
Parity	Nuclear	125	61
	Joint	80	39
Types of delivery	1	69	33.7
	2	89	43.4
	3	33	16.1
	4	11	5.4
	5 or more	3	1.5

Table 2 shows that 99.0% of respondents had received antenatal care, but out of them, only 25.5% received all 4 antenatal care visits at the standard time. 39.0% of respondents delivered their children at private facilities (clinics), whereas 23.9% of respondents chose their delivery place as home. Most deliveries (65.9%) were caesarean sections, and in most cases (55.1%) the doctor acted as the birth attendant. When choosing the birthplace, 38.5% were chosen jointly (husband and wife). Out of 205 respondents, 70 (34.1%) faced complications during childbirth, and only 1 (1.43%) respondent did not receive any measures after facing complications during childbirth.

Table 2: Distribution of respondents by their childbirth experience

Variables	Type	Frequency	Percentage
Antenatal Care	Yes	203	99.0
	No	2	1.0
All 4 ANC visit at Standard time	Yes	53	25.9
	No	152	74.1
Delivery places	Home	49	23.9
	Govt. facilities	76	37.1
	Clinic	80	39.0
Types of delivery	Normal	70	34.1
	Caesarean	135	65.9
Status of last child	Alive	203	99.0
	Still Birth	2	1.0
Types of birth attendant	Doctor	113	55.1
	Nurse or midwife	28	13.7
	CSBA	18	8.8
	TBA/Dai	36	17.6
	Relatives	8	3.9
Decision maker of the delivery places	Others	2	1
	Husband	71	34.6
	Wife	20	9.8
	Jointly	79	38.5
Complicacy faced during childbirth	Others	35	17.1
	Yes	70	34.1
	No	135	65.9

Discussion

The study was conducted for 205 married rural women who gave birth in 2018 and explored the social and demographic factors shaping the delivery practices of rural women of northern Bangladesh. The study shows that the literacy rate of the respondents was almost 96.1%, where the current literacy rate (7+) of Bangladesh is 74.80% [7]. But the national passing rate for graduation and above is significantly higher (8.86%) compared to this area, where only 3.4 respondents passed (graduation and above) [8].

This data suggests high ANC coverage within this sample. ANC, crucial for promoting maternal and child health during pregnancy, was received by the majority (203, 99%) of the individuals. However, a small portion (2, 1%) did not receive ANC, highlighting a cause for concern despite the high coverage. One study done by Meherunnessa Begum *et al.* (2013) showed that good number of their study respondents (89.9%) received antenatal care [9]. But considering the standard time of receiving antenatal care only 25.9% respondents received it properly. Here we can see the case of a woman who did not receive any antenatal care-

When I recognized I was pregnant again, my neighbors advised me to visit a doctor. But I refused. I was afraid to see the doctor and take medication. On top of that, I felt shy about disclosing I was pregnant because my children were already grown-up, my eldest being 22 and married. My husband and I couldn't read or write, and we were poor also. Because of my fear of doctors and needles, shyness, illiteracy, poverty, and my family situation, I ended up not getting any prenatal care ^[10].

But it is necessary to increase the coverage of ANC significantly, skilled and facility delivery, and postnatal care to accelerate the reduction of mother and child mortality ^[11]. Another study suggested that complete antenatal care could prevent a significant number of maternal mortality ^[12].

It is a good sign that 76.1% delivery were happened in health facilities where 23.9% deliveries were happened at home. Bangladesh Sample Vital Statistics 2023 refers that in 2023, the facility base delivery was 67.18%, higher than the year 2022 and the home delivery in 2023 was 32.77, where in 2022 it was 42.32 ^[13]. On the other hand, according to the Bangladesh Demographic and Health Survey, 2022 (65%) of mothers deliver a health facility ^[14]. Though the number of home delivery is in a decreasing mode, still it is very high. Various reasons hindering behind this. One of the respondents opined that-

Fear of a cesarean section gripped me. I believed if I went to a clinic or hospital, the doctor would cut me open and deliver the baby that way. This fear was so strong that even when the labor pains became intolerable, I couldn't bring myself to go to any health center ^[15].

Another participants argued about delivery at home and mentioned that

My husband really wanted to take me to the doctor for delivery at the hospital, but I disagreed. I very much preferred to deliver at home. Home birth seemed convenient, and it would reduce the chance of a C-section. Additionally, at home deliveries, women served as birth attendants. That's why I refused to go out for childbirth ^[16]. Though many deliveries are happening at home, facility-based delivery has increased rapidly. There are various reasons behind the facility-based delivery also. One respondent argued in favor of facility-based delivery.

My first child was born at home. However, I didn't have any complications during the delivery, my child, unfortunately, developed pneumonia afterward. This experience made me choose a medical college hospital for the birth of my second child. Because if any problem arises at the time of childbirth, medical college hospitals can manage it ^[17].

Focus group discussion (FGD) was also done to get the real information. FGD findings also suggested in favor of institutional delivery-

Hospitals and clinics offer various facilities specifically equipped to handle childbirth. Skilled doctors and medical personnel are mostly available to address any complications that might arise during delivery. But if pregnant women face any problem at the time of delivery at home, they would not be able to take any remedial actions. Therefore, prioritizing the safety of both mother and baby, most pregnant women choose to deliver at healthcare facilities, prepared for either a natural birth or a caesarean section if needed ^[18].

Ashoke Gorain *et al.* (2017) mentioned that institutional delivery coverage is crucial for lowering both maternal and infant mortality rates ^[19]. Another study shows that delivery practices depend on various socio-demographic factors like,

a pregnant woman's education level, spouse's education, income, and distance to the health facility, and so on ^[20].

In the study area, caesarean delivery was widespread, compared to normal or vaginal delivery. 65.9% delivery were caesarean, whereas only 34.1% were normal delivery. Another study conducted among rural women in Dhamrai upazila, Dhaka district in 2008 found a caesarean delivery rate of 18.2%, while vaginal delivery accounted for 81.8%. It shows the increasing tendency of caesarean delivery ^[21]. But the WHO systematic review found that while caesarean section rates up to 10-15% are positively linked to reductions in maternal, neonatal, and infant mortality. Above this level, increasing the rate of caesarean section is no longer associated with reduced mortality ^[22]. So, proper intervention and motivation is need to reduce the number of caesarean delivery. There might have various reasons for caesarean delivery and most of them happened in private facilities (clinic). One of the reasons of caesarean deliveries in clinic is that a good number of broker or commission agent is doing work in favor of them. One KII mentioned that-

Generally, rural women are not so educated. They do not know the pros and cons of caesarean delivery properly. In most cases, they also don't know, whether government or private facilities, will be better for them for childbirth. On the other hand, in recent years, a growing number of clinics have been established. Most clinics don't have enough manpower (doctor, midwife, nurse), and their priority is financial benefit. They are not able to observe a pregnant woman for normal delivery, because it takes time and skilled manpower. Nearly all clinics have local agents or brokers in rural areas, who are involved or engaged to collect patients and send them to the clinic, instead of it they get some commission. That is why, when pregnant women come to the clinic or the broker sends the pregnant women to the clinic, in most of cases, the clinic authority does the caesarean section. It is one cause of delivery in clinics and delivery through cesarean section ^[23].

For the case of birth attendants, more than half of the deliveries (55.1%) of the respondents were attended by doctors 55.1%, nurses, or midwives 13.7%, and 8.8% of deliveries were attended by CSBA, who were treated as medically trained providers, and the total of them was 77.6%. The proportion of births attended by medically trained providers rose significantly between 2011 and 2022, increasing from 33% to 70%. Notably, the 4th HPNSP successfully achieved its target of reaching 65% of births attended by medically trained providers by 2023 ^[24]. The study area's achievement is slightly better (77.6%), compared to the national average.

In rural areas, doctors are not normally available. However, most pregnant women still prefer to have a doctor present during delivery. Unfortunately, doctors are typically stationed at hospitals and clinics located far from these rural communities. Considering both the need for better facilities and the desire for doctor availability, most women ended up delivering their babies at health facilities where doctors served as birth attendants.

Conclusion

Various studies have been done all over the world regarding maternal health and childbirth places. However, it is important to note that every pregnancy and delivery is unique and different from each other ^[25]. Providing high-

quality maternity care with respect is crucial for the well-being of all mothers. All the rural areas of Bangladesh are not same. So, much research on rural areas is needed along with urban areas to get the original scenario. By giving priority of regional varieties and needs, government can take efficacious steps.

From the study it can be recommended that, though the number of antenatal care visit has been increased, but government has to make sure the standard time of ANC visit. On the other hand, though the facility based delivery rate is increasing, after that there should be given more emphasis. And the health worker should motivate the rural women to deliver her children in health facilities. Government should take necessary steps to caesarean section, only when necessary. So, it is necessary to increase the rate of education among rural women along with others and empower them economically. It is also essential to ensure quality service in rural areas so that pregnant women can easily go to health facilities to get service. Law enforcing authority should ensure the no marriages before 18 in rural areas as well as across the country. So, to ensure quality delivery practices, the concerned authority should emphasize socio-demographic development of rural women.

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